

REMARKS / ARGUMENTS

Claims 1-3, 19, 20, 23, and 32-39 are pending in this application.

Lack of New Matter in Amendments

Applicants respectfully submit that the foregoing amendments do not add any new matter to the application, as explained hereinafter.

In claim 23, deletion of the final letter "s" from the word "plasticizers" merely corrects a typographical error.

New claim 32 is directed to a mixture of a poly(vinyl chloride)-containing matrix resin and at least one aqueous additive system. The additive system is described in the specification on p. 4, line 27 through p. 5, line 9. The use of acrylic impact modifiers and/or methyl methacrylate-butadiene-styrene modifiers is discussed in the specification, for example on p. 1, lines 11-14 and p. 4, line 2. Formation of a mixture of the additive system with a matrix resin is discussed throughout the specification, for example on p. 4, line 22 ("... mixing the additive with the resin"). The possibility of using more than one aqueous additive systems is discussed in the specification, for example on page 10, lines 22-30, items (b) and (f). The use of matrix resins that contain poly(vinyl chloride) (PVC) is discussed in the specification, for example on p. 7, line 11.

New claim 33 contains a feature involving processing aids for PVC, as described in the specification, for example on p. 18, line 22.

New claim 34 contains a feature involving lubricating processing aids, as described in the specification, for example on p. 17, line 13.

New claim 35 contains features disclosed in originally-filed claim 4.

New claims 36 and 37 contain features involving the weight percent of rubbery core which were disclosed in the originally filed claims 5 and 6.

New claim 38 contains a feature involving polymers synthesized by emulsion polymerization, as described in the specification, for example, on p. 13, line 22; p. 15, line 24; and p. 18, lines 29-31.

New claim 39 contains features disclosed in originally filed claim 3.

As shown herein above, each amendment has a basis in the application as originally filed. Therefore, Applicants respectfully submit that the amendments add no new matter and respectfully request the Examiner to enter the claims as currently amended for consideration in the present application.

Claims 1-3, 19, 20, and 23 in view of Sasaki or Kempner or Bett or Lee '319 or Bertelo or Richard

In a previous Office Action mailed on June 18, 2002, the Examiner rejected claims 1-6, 19, 20, and 23 under 35 USC §102(b) as being anticipated by US 5,290,858 ("Sasaki") or US 5,442,012 ("Kempner") or US 5,872,189 ("Bett"); under 35 USC §102(e) as being anticipated by US 6,043,319 ("Lee '319") or US 6,114,415 ("Bertelo") or US 6,224,981 ("Richard"); and under 35 USC §103(a) as obvious over Sasaki or Kempner or Bett or Lee '319 or Bertelo or Richard.

Applicants responded to these rejections in an Amendment After Final, filed on February 27, 2003. Applicants affirm the amendments and arguments made in that Amendment After Final and respectfully request that the Examiner enter and consider the amendments and arguments made therein. A copy of that Amendment After Final is submitted along with this paper. In view of that Amendment After Final, Applicants respectfully request that claims 1-3, 19, 20, and 23 be allowed.

New Claims 32-39 in view of Sasaki or Kempner or Bett or Lee '319 or Bertelo or Richard

Applicants respectfully submit that new claims 32-39 are neither anticipated by nor obvious over Sasaki or Kempner or Bett or Lee '319 or Bertelo or Richard.

The present invention as recited in new independent claim 32 is directed to an additive-matrix mixture formed by mixing ingredients comprising a poly(vinyl chloride)-containing matrix resin and at least one aqueous additive system, each aqueous additive system comprising one polymeric additive. As recited in new independent claim 32, each polymeric additive is either an acrylic impact modifier, a methyl methacrylate-butadiene-styrene modifier, or a polymeric processing aid.

Sasaki discloses a core-shell polymer additive blended with polyoxymethylene resin (abstract and col. 6, lines 35-38). Sasaki does not disclose matrix resin compositions comprising poly(vinyl chloride) resins; those of ordinary skill in the relevant art will readily recognize that polyoxymethylene resin is a different material from poly(vinyl chloride) resin. Therefore, Applicants respectfully submit that Sasaki does not anticipate the additive-matrix mixture of the present invention as recited in new claim 32.

Further, Sasaki teaches that the core-shell polymer additive is dried to powder (i.e., separated from the water used as polymerization medium) before it is blended with the polyoxymethylene resin (col. 6, lines 15-34). Thus, Sasaki teaches away from mixing aqueous additives with matrix resins. Therefore, Applicants respectfully additionally submit that the present invention as recited in new claim 32 is not obvious in view of Sasaki.

Kempner discloses a polymeric additive that is disclosed to have an "encapsulating shell encapsulating an agglomerate of impact modifier and processing aid particles" (col. 3, lines 37-39). In contrast, the present invention as recited in new claim 32 is directed to aqueous additive systems, each of which has a polymeric additive that is an impact modifier or a processing aid, but no single polymeric additive has both a processing aid and an impact modifier. Therefore, Applicants respectfully submit that the

additive disclosed by Kempner does not anticipate the additives of the present invention as recited in new claim 32.

Further, Kempner makes no suggestion that improved properties may be achieved by using additive compositions other than the particular co-agglomerated and encapsulated composition recited in his disclosure. Regarding methods of adding his additive to matrix resin, Kempner repeatedly emphasizes a preference for isolating (i.e., drying) the additive to powder form, prior to mixing the additive with matrix resin (see, for example, abstract, and col. 4, line 64, and col. 9, line 9). Applicants note that when Kempner refers to "coagulation" as an isolation method, Kempner teaches that the polymer is coagulated and "then dried" (col. 9, line 15). Also, Kempner teaches that the purpose of his invention is to improve the properties of the dry powder of his additive compositions (for example: col. 2, lines 4-5; col. 8, line 47). All of the examples in Kempner's disclosure involve coagulation of the additive, followed by drying in a fluid bed dryer, prior to addition to a matrix resin. In contrast, the present invention as recited in new claim 32 is directed toward polymeric additives that are aqueous and therefore are added directly to matrix resin without any drying or coagulation steps being required prior to such addition. Consequently, Applicants respectfully submit that Kempner makes no suggestion toward Applicants' claimed types of polymeric additives (which are different from Kempner's particular additives) and no suggestion toward the aqueous state of Applicants' claimed types of polymeric additives. Therefore, Applicants respectfully submit that the present invention as recited in new claim 32 is not obvious in view of Kempner.

Bett discloses the use of "water-redispersible powders" (abstract) that, when re-dispersed in water, are useful "to prepare formulations which are suitable for the conventional uses of latices." (col. 1, lines 14-16). Bett teaches that such conventional uses include paints, coatings for paper, adhesives, and hydraulic binders for mortar or concrete (col. 1, lines 16-19).

In contrast, the present invention as recited in new claim 32 is directed to mixtures of aqueous additive systems with "matrix resin," which is disclosed to be designed for "conversion of the matrix resin, under conditions of heat and shear, to a molten plastic" (instant specification, p. 17, lines 8-10). Those of ordinary skill in the relevant art would understand the melt-processable "matrix resin" to be in a different class of materials from those used in Bett's "conventional uses of latices."

Further, Bett makes no disclosure regarding mixtures of his additives with poly(vinyl chloride). Consequently, Applicants respectfully submit that the disclosure of Bett does not anticipate the present invention as recited in new independent claim 32.

Additionally, Bett makes no suggestion regarding the use of matrix resins in general and poly(vinyl chloride) in particular. Therefore, Applicants further respectfully submit that the present invention as recited in new independent claim 32 is not obvious in view of Bett.

Lee '319 discloses "void-type plastic pigment" (col. 2, line 36) that is mixed with a "coating adhesive" (col. 6, line 44) to produce a paint or a paper coating (col. 1, lines 12-15). Those of ordinary skill in the relevant art would understand "void-type plastic pigment" to be a different class of materials from any impact modifier or processing aid. Further, those of ordinary skill in the relevant art would understand "coating adhesive" to be a different class of materials from melt-processable matrix resins in general and poly(vinyl chloride)-containing resins such as those of the present invention in particular. Lee '319 makes no mention of or suggestion toward use of poly(vinyl chloride). Consequently, Lee '319 does not teach either the additive systems or the matrix resins of the present invention as recited in new claim 32. Additionally, Lee '319 makes no suggestion toward the combination of an aqueous additive system and a poly(vinyl chloride)-containing matrix resin such as in the present invention as recited in new independent claim 32. Therefore, Applicants respectfully submit that the

present invention as recited in new claim 32 is neither anticipated by nor obvious in view of Lee '319.

Bertelo discloses coagulated latex polymers, and he makes no disclosure and no suggestion of adding the coagulated latex polymer to any other ingredient. Therefore, Applicants respectfully submit that the present invention as recited in new independent claim 32 is neither anticipated by nor obvious in view of Bertelo. Further, Bertelo teaches that the purpose of coagulation is to provide a "process which makes it possible to collect a powder" (col. 1, lines 16-17). Bertelo further teaches that one advantage of latex polymers coagulated by his methods is that his methods result in "particles of spherical shape, which facilitates the handling of the powder once dried." Thus, Applicants assert that Bertelo teaches away from using the un-coagulated latex itself as an additive in aqueous form, whereas the present invention specifically calls for use of additive systems in their aqueous form in combination with poly(vinyl chloride)-containing resin. Applicants respectfully submit that this teaching away provides an additional reason why the present invention as recited in new independent claim 32 is not obvious in view of Bertelo.

Richard, like Bett, discloses "water-redispersible powders" that can be added to "formulations which are suitable for the conventional uses of latices." These "conventional uses" are defined as in Bett (i.e., defined as including addition to paints, coatings for paper, adhesives, and hydraulic binders for mortar or concrete). These "conventional uses, as explained herein above, are different from uses that involve addition to melt-processable matrix resins. Thus, for the same reasons discussed herein above regarding Bett, Applicants respectfully submit that the present invention as recited in new independent claim 32 is neither anticipated by nor obvious in view of Richard.

Applicants further respectfully submit that new claims 33-39, because they are dependent on new claim 32, are also neither anticipated by nor made obvious by Sasaki or Kempner or Bett or Lee '319 or Bertelo or Richard.

Conclusion

Applicants respectfully request the Examiner to withdraw the rejections of the claimed subject matter set forth in the Office Action mailed June 18, 2002 and to allow claims 1-3, 19, 20, 23, and 32-39 at this time.

A fee of \$750 is believed to be due in connection with the Request for Continued Examination that accompanies this Amendment. The \$750 fee is addressed by the Fee Transmittal Form submitted herewith. No additional fees are believed to be due; however, if any such fees, including petition or extension fees, are due, the Commissioner is hereby authorized to charge them, as well as to credit any overpayments, to Deposit Account No. 18-1850.

Lastly, please associate the present application with Customer Number 21898.

Respectfully Submitted,

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